

We claim:

1. Method for frequency calibration of a testing apparatus for testing mobile terminals provided for operation in a mobile communication net, such as mobile or cellular telephones, wherein the testing apparatus passively listens to an established communication based on a data communication built up between a mobile telephone and the mobile communication net, wherein the information signals underlying the communication are at least partially sampled and evaluated by the testing apparatus, and wherein based on this evaluation a reference frequency unit incorporated in the testing device is calibrated.

2. Method according to claim 1, wherein the established communication comprises a data communication between the mobile terminal and a base station of the mobile communication network.

15 3. Method according to claim 1, wherein bit streams essentially periodical in the time domain are processed as information signals.

20 4. Method according to claim 3, wherein for a calibration of the reference frequency unit the frequency error of the bits streams measured by the testing apparatus is minimized for a calibration of the reference frequency unit.

5. Method according to claim 3, wherein the bursts of the mobile terminal establishing the data communication are analyzed by the testing apparatus as the bit streams.

25 6. Method according to claim 5, wherein the reference frequency unit is electrically and/or mechanically calibrated.

30 7. Method according to claim 5, wherein the bursts are analyzed by the testing apparatus in an asynchronous test mode.

8. Method according to claim 1, wherein an initial synchronization phase between the mobile terminal and the base station is awaited before the data exchange between the mobile terminal and the base station is passively listened to.

5 9. Method according to claim 2, wherein the mobile terminal is initialized and booked onto the mobile communication net for establishing the data communication between the mobile terminal and the base station.

10 10. Method according to claim 1, wherein the testing apparatus is coupled to a power splitter and/or to an antenna for passively listening to the communication between the mobile terminal and the communication net.

15 11. Testing apparatus for testing mobile terminals provided for an operation in a mobile communication net, such as mobile or cellular telephones, for carrying out the method according to claim 1.

20 12. Testing apparatus for testing mobile terminals provided for operation in a mobile communication net, such as a mobile or cellular telephones, wherein the testing apparatus comprises a passive listening or tapping mode in which the testing apparatus monitors and evaluates the data exchange between the mobile terminal and the mobile communication net, in particular with a base station thereof.

25 13. Testing apparatus for testing mobile terminals according to claim 12, wherein the testing apparatus comprises a reference frequency unit which is calibratable in response to the evaluated data obtained in the tapping mode.

14. Testing apparatus according to claim 13, wherein the testing apparatus comprises a quartz oscillator as a reference frequency unit.

30 15. Testing apparatus according to claim 12, wherein the testing apparatus further comprises a graphic real time display device.

100-1000 800-8000 500-5000 300-3000 200-2000 100-1000

16. Use of a mobile terminal, such as a mobile or cellular telephone, provided for operation in a mobile communication net, for frequency calibration of a testing apparatus for testing the mobile terminals provided for operation in a mobile communication net.